



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,593	04/28/2006	Kensuke Orito	SC-IAT-107	3186
69296 7590 04/17/2008 VON SIMSON & CHIN 62 WILLIAM STREET, 6TH FLOOR NEW YORK, NY 10005				
EXAMINER				
PANI, JOHN				
ART UNIT		PAPER NUMBER		
3736				
MAIL DATE		DELIVERY MODE		
04/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,593

Applicant(s)

ORITO ET AL.

Examiner

JOHN PANI

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 4/28/06 7/12/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-11 and 15) in the reply filed on 1/14/08 is acknowledged.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 2, 4, 5, 8, 10, and 11 are objected to because of the following informalities:

In reference to Claims 2 and 8

In line 7 it is suggested to delete "plural" prior to "marker images" and "feature images" to maintain consistent language.

In reference to Claims 4, 5, 10, and 11

In line 3 it is suggested to replace "the degree" with --a degree--.

In reference to Claims 5 and 11

In lines 20 and 23 it is suggested to replace "the two markers" with –two markers–

–.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-6 and 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In reference to Claims 2-5 and 8-11

Claims 2 and 8 recite the limitation "the image" in line 3. There is insufficient antecedent basis for this limitation in the claim.

In reference to Claims 3 and 9

It is unclear what is meant by lines 5-9, thereby rendering the claims indefinite. For example, it is unclear how "movement of each of the limbs" is based on "a relative position of the marker image of each of the limbs to a position of the marker image of the reference point marker in the image". Further, it is unclear whether "the marker image" refers to an additional physical entity or merely the portion of "the image" in which "the marker" is located, etc.

In reference to Claims 5 and 11

In line 10 it is unclear what is meant by "a straight line connecting two markers attached to two right and left limbs". For example, the claim could be interpreted to mean that two markers are attached to each of a right arm and left arm for a total of four markers. Alternatively, the claim could be interpreted to mean that one marker each is attached to, for example a right arm and left arm, for a total of two markers. These interpretations contradict each other, thus leading to an indefinite scope of the claims. Additionally, lines 9, 13, 16, 19, and 22 refer to "a midpoint". Each of these midpoints are subsequently alternatively defined. It is suggested to refer to the first instance in line 9 as --a first midpoint--, and subsequently in lines 11-12 as --a first midpoint--. Corresponding changes are suggested for the subsequent four paragraphs (for example, changing "a midpoint" of line 13 to --a second midpoint--).

In reference to Claim 6

Claim 6 recites the limitation "the markers" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Additionally, it is unclear in lines —3 whether the markers are coated with or contain a substance that emits light upon either receiving ultraviolet or receiving phosphor, or whether the markers are coated either with phosphor, or are coated with a substance that emits light upon receiving ultraviolet.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

Art Unit: 3736

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 4-6, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2005/0004495 to Goswami ("Goswami").

8. Goswami teaches:

In reference to Claims 1 and 15

A movement analysis system capable of being used on infants comprising: an imaging device that outputs a motion picture of a subject as digital data (see [0029-0030]); and an analyzing device (see [0024-0027]) that determines movements of markers attached to four limbs of the subject (see [0048-0051]) from the motion picture and identifies a disease and/or a symptom of the subject from correlativity of movements markers attached to a plurality of arms and/or legs out of the four limbs (see [0037-0041]).

In reference to Claim 2

The movement analysis system of claim 1 (see above) wherein the analyzing device includes: a feature image extracting means for extracting from the image marker images of markers attached to the four limbs of the subject one every one frame or plural frames (see [0030]); a limb movement determining means for determining the movement of each of the limbs based on positions of the marker images (see [0031]); a movement analyzing means for extracting right-left synchronism of the arms or legs (see [0037-0039]), right-left symmetry of the arms or legs, and/or coordination among

the plural limbs (see [0040-0041]) in the movements determined by said limb movement determining means; and a judging means (see [0040]) for judging existence/nonexistence or a value of possibility of a disease and/or a symptom of the subject based on degree of right-left synchronism, right-left symmetry, and/or the coordination which are extracted by said movement analyzing means.

In reference to Claim 4

The movement analysis system of claim 2 (see above) wherein said movement analyzing means determines existence/nonexistence or the degree of the right-left synchronism and/or the right-left symmetry of the arms or the legs, using as an index at least one of: movement ranges of the markers (see [0038]).

In reference to Claim 5

The system of claim 2 (see above) wherein said movement analyzing means determines existence/nonexistence or degree of coordination among the plural limbs using as index one factor selected from: at least one of speed of the midpoint of straight line connecting two markers attached to two right and left limbs (see [0033], the angular velocity of the joints would contain a velocity of the midpoint of the markers used to determine the angles of the joints).

In reference to Claim 6

The system of claim 1 (see above) wherein the markers are coated with or contain a substance that emits light when receiving ultraviolet (see [0030]).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goswami.

In reference to Claims 3

Goswami teaches the systems of claims 2 (see above) and further teaches a marker image placed on the head and torso (see Fig. 5 "A new gait parameterization by means of cyclogram moments: Application to human slope walking" to Ambarish Goswami, which is incorporated into Goswami) which is extracted. In order to determine motion of the limbs, this determining must inherently be done using either absolute or relative positioning of the markers.

In reference to Claim 7

Goswami teaches a movement analysis system capable of use with an infant comprising: a database (see [0040], "compared with those of cyclogram generated from a perfectly symmetrical gait or some other baseline") that stores movement data indicating histories of movements of limbs of a subject, the movements being determined from a motion picture of the subject photographed by an imaging device that photographs a subject to output a motion picture of the subject as digital data (see [0029-0030]); and an analyzing device (see [0024-0027]) that identifies a disease of the

subject from correlativity of movements of a plurality of arms and/or legs out of the four limbs based on movement data stored in said database (see [0037-0041]). However, Goswami does not teach that the database stores movement data for four limbs of a subject. Goswami does teach that the system can be used to quantify symmetry in both arms and legs, in addition to in leg movements of quadrupeds (see [0048]). It would have been obvious to one having ordinary skill in the art at the time of the invention to have expanded the database to include movement data for four limbs so that the device could be used to quantify symmetry in both arms and legs, or in the legs of quadrupeds, as implicitly taught by Goswami.

In reference to Claim 8

Goswami teaches the system of claim 7 (see above) and further teaches the additional limitations of claim 8 (see rejection of claim 2 by Goswami above).

In reference to Claim 9

Goswami teaches the system of claim 7 (see above) and further teaches the additional limitations of claim 9 (see rejection of claim 3 by Goswami above).

In reference to Claim 10

Goswami teaches the system of claim 8 (see above) and further teaches the additional limitations of claim 10 (see rejection of claim 4 by Goswami above).

In reference to Claim 11

Goswami teaches the system of claim 8 (see above) and further teaches the additional limitations of claim 11 (see rejection of claim 5 by Goswami above).

In reference to Claims 3

Goswami teaches the systems of claims 2 (see above) and further teaches a marker image placed on the head and torso (see Fig. 5 "A new gait parameterization by means of cyclogram moments: Application to human slope walking" to Ambarish Goswami, which is incorporated into Goswami) which is extracted. In order to determine motion of the limbs, this determining must inherently be done using either absolute or relative positioning of the markers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN PANI whose telephone number is (571)270-1996. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 3736

JP 4/9/08

/Max Hindenburg/

Supervisory Patent Examiner, Art Unit 3736